JUST TO GET ACQUAINTED.

Patent plasters **"Empire Brand"** are now in such demand and the uses of gypsum products so well known, that any long dissertation on gypsum as a building material may be considered as superfluous. However, we are taking advantage of this new edition of the plaster book to make a few remarks on a subject which we trust will be of interest to all who are connected with the building trades, and to those who are desirous of obtaining the most reliable information on the best constructive work and on the materials to be used in order to obtain the most satisfactory results.

ON THE USES OF GYPSUM PRODUCTS.

A careful study of the statistics of fire losses will bring home to every one the necessity of **fireproof** and fire **retardent** construction.

A large percentage of loss is often caused by fire **extending** beyond limit of building in which it originated. Loss of this kind can be reduced to a minimum by the use of a fire **resistant** of low coefficient of expansion.

Fireproofing at best is a dead load, forming no part in the support of the structure, consequently, **lightness** in weight is an essential. Again, fireproofing should have **no** appreciable expansion under heat action : Materials of a nature that readily expand under heat, contract when water is applied to heated surface ; this contraction is **frequently** the cause of fireproofing giving way, thus becoming an aid, instead of a retardent ; further. gypsum excepted, fireproofing is mainly composed of high-expansion materials, which are either rendered **useless** by buckling, or in the case of tile by the destruction of the tile face.

Fireproofing **to be efficient** must have a combination of qualities such as can only be found in manufactures from **gypsum** — we refer more particularly to **patent plaster, plaster board** and **plaster tile.**

Gypsum plasters and tile recalcine to some extent, under great heat, and water applied under heavy pressure only removes this calcined portion. Gypsum products will stand up against heavy water streams, and **will not burst** as is frequently the case with other fireproofing material.

Patent plasters and Gypsum products generally are light in weight, tough and adaptable, and **will stand more abuse** than any other plastering or fireproofing material.

Gypsum plasters are incombustible, and owing to low conductivity, form a perfect protection for steel construction. Heat penetrates plaster at such a slow rate, tha metal **will hardly get warm** during the duration of an ordinary fire.

Gypsum, in its calcined form, can be put to so many uses that it is now looked upon as one of the most important and useful of all materials used in construction. As a practically indestructible wall plaster on wood and metal lath, brick, tile and concrete walls, etc., **it will last as long or longer** than the material it covers ; as a fireproofing, in the shape of a plaster tile, it will stand against **a fire stream** that will cause any other material to expand and collapse ; in the plaster board form it is a better than lath substitute, and is a fire retardent that can be adapted to almost any form of construction ; it enters largely into the composition of asbestos pipe coverings, and wherever insulation against cold and heat is required. Gypsum products in some form are invariably called for on good construction by those who understand the peculiar proprieties of the many materials used in **up-to-date** building operations.

" EMPIRE " WOOD FIBER PLASTER.

" Empire " Wood Fiber Plaster can be applied in the same manner as any other hardwall plaster, and gives equally good results on " Empire " Plaster Board or " Empire " Plaster Tile, wood or metal lath. and on brick or terra cotta walls.

The wood fiber bond used in this plaster gives it lightness, elasticity and toughness, while the other ingredients give the necessary hardness, strength and lasting qualities.

" Empire " Wood Fiber Plaster is a non-conductor of sound, electricity, heat and cold ; it is absolutely vermin-proof ; it cannot be damaged by water, and it is a fire-retardent.

Architects' specifications and general directions for the use of " Empire " and other brands of Wood Fiber Plaster manufactured by the Manitoba Gypsum Co., Ltd.

ARCHITECTS' SPECIFICATIONS—

GROUNDS.

For Wood Lath : to be $\frac{5}{8}$ to $\frac{3}{4}$ inch—preferably $\frac{3}{4}$ inch.
For Plaster Board : to be $\frac{1}{4}$ to $\frac{1}{2}$ inch—preferably $\frac{1}{2}$ inch.
For Brick or Terra Cotta Tile : to be $\frac{1}{2}$ inch.
For Plaster Tile : to be $\frac{3}{8}$ to $\frac{1}{2}$ inch.
For Wire Lath or expanded Metal : $\frac{3}{8}$ inch over face of lath.

WOOD LATH.

To be No. 1 White Pine or Spruce, free from knots, sap or bark. To be spaced $\frac{1}{4}$ inch apart and well nailed. If lath are dry, they should be liberally sprinkled with water three or four hours before the plaster is applied. This necessary treatment of wood lath is a preventive for buckling and lath cracks. Half-green lath are preferable.

PLASTER BOARD.

To be " Empire " Plaster Board, manufactured by the Manitoba Gypsum Co., Ltd., and to be applied in accordance with their printed instructions.

HOLLOW PLASTER TILE.

To be " Empire," manufactured by the Manitoba Gypsum Co., Ltd., and to be set up in accordance with their printed instructions.

PLASTER.

To be " Empire " Wood Fiber Plaster, manufactured by the Manitoba Gypsum Co., Ltd., and to be applied in accordance with their printed instructions.

INSTRUCTIONS FOR MIXING AND APPLYING " EMPIRE " AND OTHER BRANDS OF WOOD FIBER PLASTER.

" Empire " Wood Fiber Plaster can either be used neat, or in the proportion of one part plaster to one part of clean, sharp sand for wood lath and Plaster Board work ; for brick or tile walls, two parts of clean, sharp sand can be used to one part of " Empire " Wood Fiber Plaster.

In order to obtain the best results, " Empire " Wood Fiber Plaster should be used as put up by us, without any mixture other than clean water ; but where good, clean, sharp sand is obtainable, excellent results can be got by following the above specifications. The attention of architects and builders is specially drawn to our specifications, as there is a tendency to oversand the material with correspondingly poor results. We cannot guarantee plaster work unless the labor is performed by skilled mechanics and the material used in accordance with our instructions.

Wood Fiber Plaster should be mixed in a water-tight box, about 3½ x 7 x 1 deep. **Do not overlook an important fact**—the box must be kept clean, as old mortar hastens the setting, and is frequently the cause of unsatisfactory results. Raise one end of the box. Pour sufficient water in one end required for one mixing. Put plaster and sand, if sand is used, in the other end of the box. Mix thoroughly, then draw the material into the water. **Soak thoroughly.** Allow the plaster to soak for fifteen to twenty minutes before hoeing. This soaking is necessary owing to the peculiar composition of Wood Fiber Plaster, and the great avidity with which the fiber bond takes up water. If the plaster is not allowed to soak at this stage, it will require more labor to do the mixing and the mortar will prove unsatisfactory for the work.

After the plaster is soaked, work up the mixture in the usual way, adding sufficient water as needed to bring to the proper consistency. Apply as you would any hardwall plaster.

Straighten work with rod and darby, and before leaving finally use the float, knocking off bumps and filling up catfaces, but do not water float as this has a tendency to kill face of work.

The best way to apply Wood Fiber Plaster is to first put on a thin scratch coat, and follow up with second coat after first has begun to set. The work can be trowelled down smooth, but where a Trowel or Float Finish is desired the base coat should be lightly broomed before setting.

COVERING CAPACITY.—The covering capacity of any material depends largely upon the condition of the walls—whether straight, properly lathed, etc. Under average

conditions, the following data will be found useful to architects and others where Wood Fiber Plaster is called for :—

ON WOOD LATH, ONE COAT WORK READY FOR FINISH.—One ton of neat Wood Fiber Plaster will cover from 140 to 160 yards.

One ton of neat Wood Fiber Plaster added to sand in the proportion of one to one by bulk will cover 200 yards.

Add one-third to one-half more for two coat work.

ON WIRE LATH OR EXPANDED METAL, TWO-COAT WORK.—One ton of Wood Fiber Plaster added to sand in the proportion of one to one by bulk will cover 100 yards.

ON " EMPIRE " PLASTER BOARD.—One ton of Wood Fiber Plaster added to sand in the proportion of one to one by bulk will cover from 400 to 425 yards.

ON BRICK OR TILE WALLS AND HOLLOW PLASTER TILE.—One ton of Wood Fiber added to sand in the proportion of one part plaster to two parts of sand by bulk will cover from 200 to 225 yards.

" EMPIRE " CEMENT WALL PLASTER.

" Empire " Cement Wall Plaster, the original " Hardwall," is one of our standards, and is so well known to the building trades that it is not necessary to give it more than a passing notice.

This plaster is easily worked, thus enabling the plasterer to cover more space in a given time than with lime mortar ; in fact, buildings can be finished with " Empire "

Cement Wall Plaster in less time than it would take lime mortar to season. It will not pit or blister, neither will it burn up the fiber bond as hair is burned up in lime work. Cement Wall Plaster has good setting and maturing qualities, thus enabling the carpenter to follow the plasterer without loss of time ; this advantage, coupled with the fact that there is no delay waiting for mortar to ripen as with lime, should interest those who look for good, quick results.

Architects' specifications and general directions for the use of " Empire " Cement Wall Plaster and " Empire " Asbestos Wall Plaster manufactured by the Manitoba Gypsum Co., Ltd.

ARCHITECTS' SPECIFICATIONS —

GROUNDS.

For Wood Lath : to be $\frac{5}{8}$ to $\frac{3}{4}$ inch—preferably $\frac{3}{4}$ inch.
For Brick or Terra Cotta Tile : to be $\frac{1}{2}$ inch.
For Plaster Tile : to be $\frac{3}{8}$ to $\frac{1}{2}$ inch.
For Plaster Board : to be $\frac{1}{4}$ to $\frac{1}{2}$ inch—preferably $\frac{1}{2}$ inch.
For Wire Lath or expanded Metal : to be $\frac{3}{8}$ to $\frac{1}{2}$ inch over face of lath.

WOOD LATH.

To be No. 1 White Pine or Spruce, free from knots, sap or bark. To be spaced $\frac{1}{4}$ inch apart and well nailed. If lath are dry, sprinkle liberally with water three or four hours before plaster is applied, so as to cause lath to swell and thus avoid buckling. Green lath are preferable, as seasoned lath are too dry.

PLASTER BOARD.
To be " Empire " Plaster Board, manufactured by the Manitoba Gypsum Co., Ltd., and to be applied in accordance with their printed instructions.

HOLLOW PLASTER TILE.
To be " Empire " Hollow Tile, manufactured by the Manitoba Gypsum Co., Ltd., and to be applied in accordance with their printed instructions.

PLASTER.
To be " Empire " Cement Wall Plaster, manufactured by the Manitoba Gypsum Co., Ltd., and to be applied in accordance with their printed instructions.

INSTRUCTIONS FOR MIXING AND APPLYING " EMPIRE " CEMENT WALL PLASTER AND " EMPIRE " ASBESTOS WALL PLASTER.

MORTAR BOXES.—3½ ft. x 7 ft. x 1 ft. is a convenient size. Raise box about four inches at one end. The box must be tight, and it should be thoroughly cleaned after each mixing. It is important to see that box is kept free from dirt and lumps of old plaster.

SAND.—Use a good quality of sharp, moderately coarse, clean sand, free from loam, dirt or frost. Dirty sand takes more plaster, hastens the set, and it is one of the causes of poor results.

MIXING.—The most satisfactory way to mix Hardwall is to first put a layer of sand and then a layer of plaster ; hoe dry from one end of box to the other, working the materials together until thoroughly mixed. Draw material to top end of box, fill lower end

with water and hoe material. Mix thoroughly—thin at first—adding sufficient dry plaster and sand to bring to the proper consistency for applying. Mortar should stand ten minutes after mixing with water. Always add water as soon as the materials are dry mixed.

APPLYING.—Two-coat work on wood lath. As soon as base coat is ready for darby sprinkle work sparingly with water. Darby lightly so as not to force mortar thru keys. Do not apply more at any one time than can be darbied before material begins to set. Cut down all angles with a trowel before plaster sets so as to prevent cracks from shrinkage. When corners are cut thru in this manner, it will leave the work free to shrink in drying and thus prevent ugly cracks that occasionally disfigure walls. These instructions apply to all corners—room corners, corners round flues, chimneys, etc. After the material is set the wall is then ready for whatever kind of finishing coat is desired.

DRY THREE-COAT WORK.—On account of lath being liable to buckle more or less, we would advise doing three-coat dry work, first putting on a scratch coat, scratching the surface with a broom before the plaster sets. Allow first coat to dry before second coat is applied. The second coat can be floated or left smooth ready for finishing coat. Dry three-coat work costs a little more than the usual run of plaster work, but the investment is good as the best possible results can be obtained.

For wire or metal lath, apply a scratch coat lightly covering the lath. After first coat is set firm and hard, apply second coat, bringing it to a true surface ready to receive the finishing coat. In all cases, darby lightly, and use water sparingly. **Double-fibered plaster is manufactured for this class of work and should be specified.**

COVERING CAPACITY.—No exact figures can be given as to the quantity of " Empire " Cement Wall Plaster required for the different classes of work, as conditions and requirements vary so much in different localities. The following information will, however, be found useful when drawing up specifications :—

ON WOOD LATH, TWO-COAT WORK, that is, one coat ready for finish.—One ton of Cement Wall Plaster added to sand in the proportion of one part plaster to two parts sand by bulk will cover about 220 yards, adding from one-third to one-half more for three-coat work, that is, two coats ready for finish.

ON METAL LATH OR EXPANDED METAL.—One ton of Cement Wall Plaster added to sand in the above proportions will cover about 110 yards.

ON " EMPIRE " PLASTER BOARD.—One ton of Cement Wall Plaster added to sand in the above proportions will cover from 400 to 450 yards.

ON BRICK OR TILE WALLS AND HOLLOW PLASTER TILE.—One ton of Cement Wall Plaster added to sand in the proportion of one part plaster to three parts sand by bulk will cover from 220 to 240 yards.

GYPSEMENT—the prepared Hardwall Plaster.

Gypsement has been put on the market to meet the demand for a ready to use Hardwall plaster. This material is scientifically prepared, the ingredients being thoroughly incorporated with each other according to a formula arrived at after a number of elaborate and practical working tests. Gypsement is a plaster of even grade and is a distinct advance

on all hand-mixed materials. Gypsement does not require the addition of sand—it comes from our Mill ready for use—it means less labor and more uniform results than can be obtained by hand-mixed materials. Gypsement is invaluable for plastering in zero weather—for quick repair work, there is nothing just as good.

Architects' specifications and general directions for the use of " Gypsement," manufactured by the Manitoba Gypsum Co., Ltd.

ARCHITECTS' SPECIFICATIONS —

GROUNDS.

For Wood Lath : to be $\frac{5}{8}$ to $\frac{3}{4}$ inch—preferably $\frac{3}{4}$ inch.
For Plaster Board : to be $\frac{1}{4}$ to $\frac{1}{2}$ inch—preferably $\frac{1}{2}$ inch.
For Brick or Terra Cotta Tile : to be $\frac{1}{2}$ inch.
For Plaster Tile : to be $\frac{3}{8}$ to $\frac{1}{2}$ inch.
For Wire Lath or expanded Metal : to be $\frac{3}{8}$ to $\frac{1}{2}$ inch over face of lath.

WOOD LATH.

To be No. 1 White Pine or Spruce, free from knots, sap or bark. To be spaced $\frac{1}{4}$ inch apart and well nailed. If lath are dry, sprinkle liberally with water three or four hours before plaster is applied. This causes lath to swell and prevents buckling and lath cracks. Green lath are preferable, as seasoned lath are too dry.

PLASTER BOARD.

To be " Empire " Plaster Board, manufactured by the Manitoba Gypsum Co., Ltd. and to be applied in accordance with their printed instructions.

HOLLOW PLASTER TILE.

To be " Empire " Hollow Tile, manufactured by the Manitoba Gypsum Co., Ltd., and to be applied in accordance with their printed instructions.

PLASTER.

To be Gypsement, manufactured by the Manitoba Gypsum Co., Ltd., and to be applied in accordance with their printed instructions.

INSTRUCTIONS FOR MIXING AND APPLYING GYPSEMENT.

MIXING.—Gypsement being a prepared plaster, the addition of clean water only is required. **Sand must not be added.**

APPLYING.—The general directions given for " Empire " Cement Wall Plaster are applicable to Gypsement.

COVERING CAPACITY.—As before mentioned, the covering capacity of material is largely governed by conditions. The following estimated surfaces will, however, be found to be fair averages :—

ON WOOD LATH.—One ton of Gypsement will cover about 75 yards, two-coat work, that is, one coat ready for finish, adding from one-third to one-half more for three-coat work, that is, two coats ready for finish.

ON WIRE LATH OR EXPANDED METAL.—One ton of Gypsement will cover about 40 yards, three-coat work, that is, two coats ready for finish.

ON " EMPIRE " PLASTER BOARD.—One ton of Gypsement will cover about 150 yards.

ON BRICK OR TILE WALLS AND HOLLOW PLASTER TILE.—One ton of Gypsement will cover about 75 yards.

" EMPIRE " FINISH.

The old style of lime-putty finish has never been altogether satisfactory. Lime finished walls invariably shrink, and ugly cracks necessarily follow shrinkage. Again lime will pop unless properly ripened, and, from our experience, we know it is seldom matured as it should be. Just think what this means—ruined wall decorations and a repair bill. Properly applied, " Empire " Finish gives a wall as hard and durable as marble. " Empire " Finish is ready for use as put up by us and only requires the addition of clean water. **Lime and sand must not be added.**

DIRECTIONS FOR USE OF " EMPIRE " FINISH.

TROWEL FINISH.—Add water only.

Let it soak a little before mixing. Apply when base coat is thoroughly set. Light coat, to be mixed very thin, first time over filling pores, grind in well and allow to draw for a few minutes, then put on second coat perfectly level, filling in all catfaces and im-

perfections. Third and last time over make material as thin as can be handled on hawk. When partly set, trowel well and use a damp brush. Later, walls can be trowelled or brushed with a dry brush to bring out a smooth, glossy surface.

COVERING CAPACITY.—This depends altogether on the condition of the walls, whether straight or not. Under average conditions, one ton of " Empire " Trowel Finish will cover about 450 yards. If walls are dry, or very rough, more material will be required.

FLOAT FINISH.—The walls should be left the same as for white coat. Use just sufficient water to make float work free. The first coat should not be allowed to get dry before the float finish is put on, as the suction will otherwise be too great. Float Finish should be put on in twenty-four to forty-eight hours after base coat is applied. On brick walls, follow up base coat closely. Use cork or carpet float.

COVERING CAPACITY.—Under average conditions one ton of " Empire " Float Finish will cover about 400 yards.

" GOLD DUST " FINISH AND " TROWEL " PLASTER OF PARIS.

These finishes should be used in the proportion of one part finish to two parts lime putty thoroughly mixed. The base coat should be dry, before finish of this kind is used, so as to enable the plasterer to cover all lath cracks and other imperfections.

COVERING CAPACITY.—We estimate that under average conditions one hundred pounds of "Gold Dust " Finish or " Trowel " Plaster of Paris added to lime putty in the proportion of one part finish to two parts lime putty will cover 100 yards of wall.

LIME PUTTY.—Five bushels of lime will make sufficient lime putty for finishing 100 yards of wall ; that is, when added to Finish as specified above.

In mixing finishes, it is absolutely necessary to keep mixing box, mortar board and tools perfectly clean. Always work walls top and bottom in order to avoid joinings. When trowelling finishes, do not use any more water than necessary so as to avoid killing face of wall.

" EMPIRE " PLASTER BOARD.

" Empire " Plaster Board is a combination fireproofing lath. It is taking the place of wood lath, and is giving results that could not be obtained under the old system of lathing. It is a substitute, but at the same time it is an improvement on the material (wood lath) it takes the place of. Plaster Board is light in weight ; it is tough, and presents a good plastering surface. Owing to there being no undesirable moisture, there is no shrinkage and warping of wood work where Plaster Board is used. The material is sound proof, a non-conductor of heat and a fire-retardent. It is a first-class sound-deadener, nailed between upper and under layers of floor boards, and, where used in this way, it makes floors of slow-burning construction. Used on buildings of frame constructon, it is a good fireproofing for stairways and for nailing as a sheathing under the siding. This manufactured lath is a time-saver, as it can be put up twice as fast as wood lath. It is easily applied by any workman of average ability, and it can be cut to shape, either with a saw or lather's hatchet. It presents a smooth and firm surface for the economical use of plaster : there is no waste, as there are no lath spaces. **Plaster Board will not burn: wood lath will.**

ARCHITECTS' SPECIFICATIONS AND GENERAL DIRECTIONS FOR THE APPLICATION OF "EMPIRE" PLASTER BOARD.

GROUNDS.

To be ½ inch.

LATHING.

To be "Empire" Plaster Board (¼ full). Boards must be spaced not less than ⅛ inch apart on all sides, and each edge must have a bearing on the stud of not less than ¾ inch.

NAILING.

Nail boards directly to studding, furring or joists -first nail middle of board, then outer edges. Use 1¼ inch wire nail with large head, set 4 inches apart. Drive nails home firm and tight, so as to prevent any working under the plaster coat.

JOINTS.

Joints must be broken horizontally on the walls and at right angles with the ceiling joists. Ceilings requiring levelling should be furred with ⅞ x 2 inch strips set on 8 or 12-inch centers In order to obtain greater rigidity, perpendicular joints on opposite walls should not be on opposite studs.

Do not wet boards before applying plaster—adhesion between plaster and the dry board is perfect.

PLASTER.

To be ....., manufactured by the Manitoba Gypsum Co., Ltd., and to be mixed and applied in accordance with manufacturers' directions. "Empire" Wood Fiber Plaster is recommended, but Cement Wall Plaster or Gypsement may be used Finish with "Empire" Finish (Trowel or Float), to be mixed and applied in accordance with manufacturers' directions.

" EMPIRE " HOLLOW PLASTER TILE.

Plaster Tile is being made to fill the demand for a light fireproofing partition and furring. The tile as manufactured by us is light, tough and durable. It is a first-class sound-deadener and fire-retardent. Plaster Tile can be sawed as easily as lumber, and trim can be nailed to it without plugging. Tile can be laid up quickly, and walls plastered as soon as set up. It cannot be burned. It is a non-conductor of heat and cold, and in addition to being the toughest fireproofing now on the market, it is the lightest. It does not contain anything that will stain the plaster work, consequently, the most delicate decorative tints can be used on walls of which plaster tile forms the base.

ARCHITECTS' SPECIFICATIONS AND GENERAL DIRECTIONS FOR THE USE OF " EMPIRE " PLASTER TILE.

PLASTER TILE.

All partitions, column covering, wall furring, pipe chases and vent ducts, where shown on plans, shall be built of " Empire " Plaster Tile, manufactured by the Manitoba Gypsum Co., Ltd.

Partitions shall be 3-inch cored tile. Where ceilings exceed 13 feet in height, 4-inch tile shall be used unless otherwise specified or shown on plans.

Partitions shall be carried from fireproof floor to fireproof arch above and shall be tightly wedged by slushing mortar in top joint. Fireproof floors shall be properly levelled to receive tile before partitions are commenced. Partitions must not be stopped at suspended ceilings. Tile shall be laid with cores horizontally, joints to be broken on each tier of tile. In topping course blocks shall be laid with cores vertically.

Tile shall be laid in mortar made up of one part " Empire " Cement Wall Plaster to two parts clean, sharp sand. Topping course to be slushed with an all Hardwall mortar. Clay or lime shall not be mixed with gypsum mortars.

The carpenter contractor shall set the rough bucks for openings ahead of the contractor for the fireproof tiling. The bucks shall be left plumb and true by the carpenter and shall be made of....., the face abutting the partition tile to be 1-inch wider than the thickness of the tile, and to be rabbeted in $\frac{3}{4}$-inch and the exact thickness of the tile to receive same, or each tier of tile to be nailed at top with 3-inch standard steel wire nails to plain bucks.

Cover all exposed interior columns with 2-inch solid " Empire " Plaster Tile, securely bonded and wrapped as often as necessary with No. 12 galvanized wire.

Construct all pipe chases and vent ducts shown on plan, except those built into brick, stone or concrete walls, with 2-inch solid " Empire " Plaster Tile.

Furr all outside walls, where shown on plans, with 2-inch " Empire " Hollow Plaster Tile laid up against the wall and securely spiked to same every square yard

PLASTERING—GROUNDS.

Shall be $\frac{1}{2}$-inch.

PLASTER.

The base coat shall be made of one part " Empire " Cement Wall Plaster added to three parts clean, sharp sand mixed and applied in accordance with manufacturers' directions. To be applied in one coat, well-filled out to grounds, and darbied to a true and even surface. Finish with " Empire " Finish, Trowel or Float, to be applied in accordance with the manuafcturers' directions.

NATIONAL STEEL STUDDING FOR PLASTER BOARD OR WIRE LATH PARTITIONS.

National Steel Studding is the only metal stud manufactured upon which Plaster Board can be applied. It is of light construction, durable, easy to erect, and it economises space.

The Steel Studs should be spaced 32 inches on center, and held in place top and bottom by stringers to which the studding is securely locked. Where Plaster Board is used, the boards are braced with double-cross clips, spaced 7½″ apart. The studding should be securely fastened every 6″ or 8″ to door bucks and wood framing at all openings.

National Steel Studding lends itself to all forms of fireproof partitions. With 1″ stud a solid partition finishing 1½″ can be obtained. The hollow forms give an air space of ⅞″ to 6½″, and conceal all wiring, pipes, etc.

GYPSTONE.—The rough cast plaster is an indestructible finish for exterior use. It is a specially prepared material, and will give rough-cast and imitation stone effects not to be obtained by using hand-mixed materials. The old method of exterior plastering has always been unsatisfactory, as the back coating made up of lime mortar, with a little cement added for color effect, being of an open and porous nature, readily absorbs water. This of course will eventually settle at the bottom of the walls and destroy the exterior plaster work as soon as caught by frost. There is no lime in Gypstone—nothing that will absorb moisture after the material is once set. Gypstone is waterproof, and can be used with equally good effect on brick, tile, wood or metal lath, and Plaster Board. Gypstone can be supplied in natural or colored tints.

DIRECTIONS FOR THE USE OF GYPSTONE.

ROUGH CAST.—Apply coat of Gypstone and scratch with lath scratcher. When set, apply second coat Gypstone. Follow second coat close with rough cast. The rough cast should be put on with a properly made dasher.

IMITATION STONE.—Apply coat of Gypstone and scratch with lath scratcher. When set, apply second coat, using darby and rod. Float with cork or cross grain float. Block off in sizes to imitate stone. This work can be done in one coat, but the best results are obtained by applying two coats.

PEBBLE DASH.—Apply coat of Gypstone, and scratch with lath scratcher. When set, apply second coat of Gypstone. Follow close with dash so as to obtain a good hold for pebbles. Pebbles should be about half embedded in second coat. Do not pound interior walls while material is setting. Material should be protected from weather until set.

Do not wet Plaster Board before applying Gypstone.

Wood lath, brick or tile should be well wet before Gypstone is applied.

A FEW POINTERS ON PLASTER.

Keep tools and mortar board clean.
Always use clean water, free from alkali, salt or other impurities.
Never wash tools in water to be used for mixing plaster.
Wash tools in a separate barrel of water.
Do not mix more material than you expect to use in one hour.
Do not re-temper plaster after it has commenced to set.
Clean box after each gauging, and do not mix one gauging with another.
Clean jambs thoroughly, and cut mortar away from base before material sets.
Keep temperature above freezing point in winter, and keep out hot blasts of wind in summer so as to keep moisture in walls while setting.
Should work show white soft spots after drying, the material is either not properly mixed, or walls have dried too quickly. Wet white spots with clean water, and brush until set up.
Brick or tile walls, and hollow plaster tile should be sprinkled before plaster is applied.

HOT WEATHER HINTS.

June, July and August are hot months.
Hot weather will affect the setting of hard plaster—if you let it—if you are careless of directions, unmindful of suggestions.
But with just ordinary care, the same thought that you would take of your watch or your clothes, you can prevent any disappointment. Our hard mortars will work just as sure and true as the rising and setting of the sun—in hot weather or any weather.

READ THESE HINTS —(They apply to cement plaster, wood fiber plaster, any kind of hard mortar containing gypsum.)

WATER.—Rock Gypsum is part water—about 20 per cent. of it.

When calcined, the water boils out.

It is then no longer Rock Gypsum ; it is Plaster of Paris.

In the mixing and application, water is the chemical force that causes re-crystallization, or " setting up." The Plaster of Paris in the mortar changes back into Gypsum Rock.

Bear in mind, then, that Gypsum must have all it wants to drink in hot weather, or it won't work. If thirsty or " dry," it will be in a hurry to get through, and will only half do its work.

THIRSTY LATH.—Remember, too, that materials get " awfully dry" in this hot weather. Wood lath in particular, gets very thirsty, and will drink a lot. They'll drink up the water that belongs to the gypsum ; drink it right up out of the plaster when you put it on the wall, and let the plaster go dry, if you let 'em.

PLAIN PLASTER TALK.—How to secure a perfect job in hot weather.

Things do not generally happen without a cause.

Having impressed upon you in the foregoing fashion, the chemical principle of hard mortar, the reason for plaster " going dry," we give you, in plain language, the following precautions, which, if you follow with ordinary care and judgment, will prevent any trouble and insure a perfect plastering job, no matter how hot the weather.

WET DOWN THE LATH.

Turn the hose on it ; soak it good and plenty ; wet it thoroughly all over—every spot. Then give it a chance to soak ; wait an hour or so before you put on the plaster. Then the lath will have all the water it wants, and won't absorb any from the mortar.

If you don't do this, the water in the plaster will be quickly absorbed by the lath (some of it, or most of it, according to how dry the lath are), and not enough left in the mortar to thoroughly set it. By " thoroughly set " we mean, every spot, every inch of the wall, uniformly hard and strong.

HOT AIR.

All openings in the house should be carefully screened with cloth, or by other means, to prevent blasts of hot air from drying up the water in the plaster.

Plaster Will Set, no matter how long it holds. If it does dry out before it hardens, " give it another drink " by spraying the wall or sprinkling liberally with a brush.

It is a good plan to sprinkle the floors ; it cools the atmosphere, and the plaster will get some of the moisture.

WAIT A LITTLE.

If you find the material is holding too long, too slow in setting, it's a good plan to leave the mortar in the mixing box from 20 to 30 minutes after it is mixed. This will give it a chance to thoroughly soak up the water, and will hasten the set considerably. But use judgment. Don't make a regular practice of this ; only do it when necessary, as explained.

THIN COATS.

If the plaster is applied too thin, it is practically impossible to make slow-setting material get hard without first wetting the lath, for the dry lath will quickly absorb the water from the small body of mortar, and it will not set until enough water has been thrown on it to thoroughly wet the lath and leave enough to set the plaster. Save time and bother by wetting the lath first.

DRY LATH MAKE TROUBLE.

Dry lath are bound to swell when wet. If you don't swell them before you put on the plaster, they'll swell and buckle afterwards. That makes the plaster warp and crack badly, and it isn't the plaster's fault either.

QUICK-SETTING PLASTERS.

Hot weather will occasionally cause plaster to set up quickly. Trouble of this kind is easily remedied by the addition of a small quantity of retarder which we shall be pleased to supply, and which should be used in accordance with the printed directions on the package.

Look out for dry lath.

DIRECTIONS FOR ASCERTAINING THE NUMBER OF SQUARE YARDS OF PLASTER IN ROOMS OF DIFFERENT SIZES, AS SHOWN IN THE FOLLOWING TABLES:

For example : To obtain number of square yards in a room 12 x 12 x 7. Turn to table giving measurements for rooms with 7-foot ceilings, find 12 in top row of figures, then follow this column down to the figures opposite 12 in the left-hand column, the answer given being 53.3, the number of square yards of plastering in the room. In cases where half a foot comes in the dimensions of a room both ways, take the next highest number on one side. When half a foot comes in on one side only, add one yard.

NUMBER OF SQUARE YARDS AND FEET IN ROOMS WITH 7-FOOT CEILINGS.

	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
3	10.3	12.2	14.1	16.0	17.8	19.7	21.6	23.5	25.4	27.3	29.2	31.1	33.0	34.8	36.7	38.6	40.5	42.4	44.3	46.2
4	12.2	14.2	16.2	18.2	20.2	22.2	24.2	26.2	28.2	30.2	32.2	34.2	36.2	38.2	40.2	42.2	44.2	46.2	48.2	50.2
5	14.1	16.2	18.3	20.4	22.5	24.6	26.7	28.8	31.0	33.1	35.2	37.3	39.4	41.5	43.6	45.7	47.8	50.0	52.1	54.2
6	16.0	18.2	20.4	22.6	24.8	27.1	29.3	31.5	33.7	36.0	38.2	40.4	42.6	44.8	47.1	49.3	51.5	53.7	55 8	58.2
7	17.8	20.2	22.5	24.8	27.2	29.5	31.8	34.2	36.5	38.8	41.2	43.5	45.8	48.2	50.5	52.8	55.2	57.5	59.8	62.2
8	19.7	22.2	24.6	27.1	29.5	32.0	34.4	36.8	39.3	41.7	44.2	46.6	49.1	51.5	54.0	56.4	58.8	61.3	63.7	66.2
9	21.6	24.2	26.7	29.3	31.8	34.4	37.0	39.5	42.1	44.6	47.2	49.7	52.3	54.8	57.4	60.0	62.5	65.1	67.6	70.2
10	23.5	26.2	28.8	31.5	34.2	36.8	39.5	42.2	44.8	47.5	50.2	52.8	55.5	58.2	60.8	63.5	66.2	68.8	71.5	74.2
11	25.4	28.2	31.0	33.7	36.5	39.3	42.1	44.8	47.6	50.4	53.2	56.0	58.7	61.5	64.3	67.1	69.8	72.6	75.4	78.2
12	27.3	30.2	33.1	36.0	38.8	41.7	44.6	47.5	50.4	53.3	56.2	59.1	62.0	64.8	67.7	70.6	73.5	76.4	79.3	82.2
13	29.2	32.2	35.2	38.2	41.2	44.2	47.2	50.2	53.2	56.2	59.2	62.2	65.2	68.2	71.2	74.2	77.2	80.2	83.2	86.2
14	31.1	34.2	37.3	40.4	43.5	46.6	49.7	52.8	56.0	59.1	62.2	65.3	68.4	71.5	74.6	77.7	80.8	84.0	87.1	90.2
15	33.0	36.2	39.4	42.6	45.8	49.1	52.3	55.5	58.7	62.0	65.2	68.4	71.6	74.8	78.1	81.3	84.5	87.7	91.0	94.2
16	34.8	38.2	41.5	44.8	48.2	51.5	54.8	58.2	61.5	64.8	68.2	71.5	74.8	78.2	81.5	84.8	88.2	91.5	94.8	98.2
17	36.7	40.2	43.6	47.1	50.5	54.0	57.4	60.8	64.3	67.7	71.2	74.6	78.1	81.5	85.5	88.4	91.8	95.3	98.7	102.2
18	38.6	42.2	45.7	49.3	52.8	56.4	60.0	63.5	67.1	70.6	74.2	77.7	81.3	84.8	88.4	92.0	95.5	99.1	102.6	106.2
19	40.5	44.2	47.8	51.5	55.2	58.8	62.5	66.2	69.8	73.5	77.2	80.8	84.5	88.2	91 8	95.5	99.2	102.8	106.5	110.2
20	42.4	46.2	50.0	53.7	57.5	61.3	65.1	68.8	72.6	76.4	80.2	84.0	87.7	91.5	95.3	99.1	102.8	106 6	110.4	114.2
21	44.3	48.2	52.1	55.8	59.8	63.7	67.6	71.5	75.4	79.3	83.2	87.1	91.0	94.8	98.7	102.6	106.5	110.4	114.3	118.2
22	46.2	50.2	54.2	58.2	62.2	66.2	70.2	74.2	78.2	82.2	86.2	90.2	94.2	98.2	102.2	106.2	110.2	114.2	118.2	122.2
23	48.1	52.2	56.3	60.4	64.5	68.6	72.1	76.8	81.0	85.1	89.2	93.3	97.4	101.5	105.6	109.7	113.8	118.0	122.1	126.2
24	50.0	54.2	58.4	62.6	66.8	71.1	75.3	79.5	83.7	88.0	92.2	96.4	100.6	104.8	109.1	113.3	117.5	121.7	126.0	130.2

Side walls and ceilings included.

NUMBER OF SQUARE YARDS AND FEET IN ROOMS WITH 7.6-FOOT CEILINGS.

	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
3	11.0	13.0	15.0	17.0	19.0	21.0	23.0	25.0	27.0	29.0	31.0	33.0	35.0	37.0	39.0	41.0	43.0	45.0	47.0	49.0
4	13.0	15.1	17.2	19.3	21.4	23.5	25.6	27.7	29.8	32.0	34.1	36.2	38.3	40.4	42.5	44.6	46.7	49.8	51.0	53.1
5	15.0	17.2	19.4	21.6	23.8	26.1	28.3	30.5	32.7	35.0	37.2	39.4	41.6	43.8	46.1	48.3	50.5	52.7	55.0	57.2
6	17.0	19.3	21.6	24.0	26.3	28.6	31.0	33.3	35.6	38.0	40.3	42.6	45.0	47.3	49.6	52.0	54.3	56.6	59.0	61.3
7	19.0	21.4	23.8	26.3	28.7	31.2	33.6	36.1	38.5	41.0	43.4	45.8	48.3	50.7	53.2	55.6	58.1	60.5	63.0	65.4
8	21.0	23.5	26.1	28.6	31.2	33.7	36.3	38.8	41.4	44.0	46.5	49.1	51.6	54.2	56.7	59.3	61.8	64.4	67.0	69.5
9	23.0	25.6	28.3	31.0	33.6	36.3	39.0	41.6	44.3	47.0	49.6	52.3	55.0	57.6	60.3	63.0	65.6	68.3	71.0	73.6
10	25.0	27.7	30.5	33.3	36.1	38.8	41.6	44.4	47.2	50.0	52.7	55.5	58.3	61.1	63.8	66.6	69.4	72.2	75.0	77.7
11	27.0	29.8	32.7	35.6	38.5	41.4	44.3	47.2	50.1	53.0	55.8	58.7	61.6	64.5	67.4	70.3	73.2	76.1	79.0	81.8
12	29.0	32.0	35.0	38.0	41.0	44.0	47.0	50.0	53.0	56.0	59.0	62.0	65.0	68.0	71.0	74.0	77.0	80.0	83.0	86.0
13	31.0	34.1	37.2	40.3	43.4	46.5	49.6	52.7	55.8	59.0	62.1	65.2	68.3	71.4	74.5	77.6	80.7	84.8	87.0	90.1
14	33.0	36.2	39.4	42.6	45.8	49.1	52.3	55.5	58.7	62.0	65.2	68.4	71.6	74.8	78.1	81.3	84.5	87.7	91.0	94.2
15	35.0	38.3	41.6	45.0	48.3	51.6	55.0	58.3	61.6	65.0	68.3	71.6	75.0	78.3	81.6	85.0	88.3	91.6	95.0	98.3
16	37.0	40.4	43.8	47.3	50.7	54.2	57.6	61.1	64.5	68.0	71.4	74.8	78.3	81.7	85.2	88.6	92.1	95.5	99.0	102.4
17	39.0	42.5	46.1	49.6	53.2	56.7	60.3	63.8	67.4	71.0	74.5	78.1	81.6	85.2	88.7	92.3	95.8	99.4	103.0	106.5
18	41.0	44.6	48.3	52.0	55.6	59.3	63.0	66.6	70.3	74.0	77.6	81.2	85.0	88.6	92.3	96.0	99.6	103.3	107.0	110.6
19	43.0	46.7	50.5	54.3	58.1	61.8	65.6	69.4	73.2	77.0	80.7	84.5	88.3	92.1	95.8	99.6	103.4	107.2	111.0	114.7
20	45.0	49.8	52.7	56.6	60.5	64.4	68.3	72.2	76.1	80.0	84.8	87.7	91.6	95.5	99.4	103.3	107.2	111.1	115.0	118.8
21	47.0	51.0	55.0	59.0	63.0	67.0	71.0	75.0	79.0	83.0	87.0	91.0	95.0	99.0	103.0	107.0	111.0	115.0	119.0	123.0
22	49.0	53.1	57.2	61.3	65.4	69.5	73.6	77.7	81.8	86.0	90.1	94.2	98.3	102.4	106.5	110.6	114.7	118.8	123.0	127.0
23	51.0	55.2	59.4	63.6	67.8	72.1	76.3	80.5	84.7	89.0	93.2	97.4	101.6	105.8	110.1	114.3	118.5	122.7	127.0	131.2
24	53.0	57.3	61.6	66.0	70.3	74.6	79.0	83.3	87.6	92.0	96.3	100.6	105.0	109.3	113.6	118.0	122.3	126.6	131.0	135.3

Side walls and ceilings included.

NUMBER OF SQUARE YARDS AND FEET IN ROOMS WITH 8-FOOT CEILINGS.

	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
3	11.6	13.7	15.8	18.0	20.1	22.2	24.3	26.4	28.5	30.6	32.7	34.8	37.0	39.1	41.2	43.3	45.4	47.5	49.6	51.7
4	13.7	16.0	18.2	20.4	22.6	24.8	27.1	29.3	31.5	33.7	36.0	38.2	40.4	42.6	44.8	47.1	49.3	51.5	53.7	56.0
5	15.8	18.2	20.5	22.8	25.2	27.5	29.8	32.2	34.5	36.8	39.2	41.5	43.8	46.2	48.5	50.8	53.2	55.5	57.8	60.2
6	18.0	20.4	22.8	25.3	27.7	30.2	32.6	35.1	37.5	40.4	42.4	44.8	47.3	49.7	52.2	54.6	57.1	59.5	62.0	64.4
7	20.1	22.6	25.2	27.7	30.3	32.8	35.4	38.0	40.5	43.1	45.6	48.2	50.7	53.3	55.8	58.4	61.0	63.5	66.1	68.9
8	22.2	24.8	27.5	30.2	32.8	35.5	38.2	40.8	43.5	46.2	48.8	51.5	54.2	56.8	59.5	62.2	64.8	67.5	70.2	72.8
9	24.3	27.1	29.8	32.6	35.4	38.2	41.0	43.7	46.5	49.3	52.1	54.8	57.6	60.4	63.2	66.0	68.7	71.5	74.3	77.1
10	26.4	29.3	32.2	35.1	38.0	40.8	43.7	46.6	49.5	52.4	55.3	58.2	61.1	64.0	66.8	69.7	72.6	75.5	78.4	81.3
11	28.5	31.5	34.5	37.5	40.5	43.5	46.5	49.5	52.5	55.5	58.5	61.5	64.5	67.5	70.5	73.5	76.5	79.5	82.5	85.5
12	30.6	33.7	36.8	40.0	43.1	46.2	49.3	52.4	55.5	58.6	61.7	64.8	68.0	71.1	74.2	77.3	80.4	83.5	86.6	89.7
13	32.7	36.0	39.2	42.4	45.6	48.8	52.1	55.3	58.5	61.7	65.0	68.2	71.4	73.6	77.8	81.1	84.3	87.5	90.7	94.0
14	34.8	38.2	41.5	44.8	48.2	51.5	54.8	58.2	61.5	64.8	68.2	71.5	74.8	78.2	81.5	84.8	88.2	91.5	94.8	98.2
15	37.0	40.4	43.8	47.3	50.7	54.2	57.6	61.1	64.5	68.0	71.4	74.8	78.3	81.7	85.2	88.6	92.1	95.5	99.0	102.4
16	39.1	42.6	46.2	49.7	53.3	56.8	60.4	64.0	67.5	71.1	74.6	78.2	81.7	85.3	88.8	92.4	96.0	99.5	103.1	106.6
17	41.2	44.8	48.5	52.5	55.8	59.5	63.2	66.8	70.5	74.2	77.8	81.5	85.2	88.8	92.5	96.2	99.8	103.5	107.2	110.8
18	43.3	47.1	50.8	54.6	58.4	62.2	66.0	69.7	73.5	77.3	81.1	84.8	88.6	92.4	96.2	100.0	103.7	107.5	111.3	115.1
19	45.4	49.3	53.2	57.1	61.0	64.8	68.7	72.6	76.5	80.4	84.3	88.2	92.1	96.0	99.8	103.7	107.6	111.5	115.4	119.3
20	47.5	51.5	55.5	59.5	63.5	67.5	71.5	75.5	79.5	83.5	87.5	91.5	95.5	99.5	103.5	107.5	111.5	115.5	119.5	123.5
21	49.6	53.7	57.8	62.0	66.1	70.2	74.3	78.4	82.5	86.6	90.7	94.8	99.0	103.1	107.2	111.3	115.4	119.5	123.6	127.7
22	51.7	56.0	60.2	64.4	68.8	72.8	77.1	81.3	85.5	89.7	94.0	98.2	102.4	106.6	110.8	115.1	119.3	123.5	127.7	132.0
23	53.8	58.2	62.5	66.8	71.2	75.5	79.8	84.2	88.5	92.8	97.2	101.5	105.8	110.2	114.5	118.8	123 2	127.5	131.8	136.2
24	56.0	60.4	64.8	69.3	73.7	78.2	82.6	87.1	91.5	96.0	100.4	104.8	109.3	113.7	118.2	122.6	127.1	131.5	136.0	140.4

Side walls and ceilings included.

NUMBER OF SQUARE YARDS AND FEET IN ROOMS WITH 8.6-FOOT CEILINGS.

	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
3	12.3	14.5	16.7	19.0	21.0	23.4	25.6	27.8	30.1	32.2	34.5	36.7	39.0	41.2	43.4	45.6	47.8	50.1	52.3	54.5
4	14.5	16.8	19.2	21.5	23.8	26.2	28.5	30.8	33.2	35.5	37.8	40.2	42.5	44.8	47.2	49.5	51.8	54.2	56.5	58.8
5	16.7	19.2	21.6	24.1	26.5	29.0	31.4	33.8	36.3	38.7	41.2	43.6	46.1	48.5	51.0	53.4	55.8	58.3	60.7	63.2
6	19.0	21.5	24.1	26.6	29.2	31.7	34.3	36.8	39.4	42.0	44.5	47.1	49.6	52.2	54.7	57.3	59.8	62.4	65.0	67.5
7	21.2	23.8	26.5	29.2	31.8	34.5	37.2	39.8	42.5	45.2	47.8	50.5	53.2	55.8	58.5	61.2	63.8	66.5	69.2	71.8
8	23.4	26.2	29.0	31.7	34.5	37.3	40.1	42.8	45.6	48.4	51.2	54.0	56.7	59.5	62.3	65.1	67.8	70.6	73.4	76.2
9	25.6	28.5	31.4	34.3	37.2	40.1	43.0	45.8	48.7	51.6	54.5	57.4	60.3	63.2	66.1	69.0	71.8	74.7	77.6	80.5
10	27.8	30.8	33.8	36.8	39.8	42.8	45.8	48.8	51.8	54.8	57.8	60.8	63.8	66.8	69.8	72.8	75.8	78.8	81.8	84.8
11	30.1	33.2	36.3	39.4	42.5	45.6	48.7	51.8	55.0	58.1	61.2	64.3	67.4	70.5	73.6	76.7	79.8	83.0	86.1	89.2
12	32.2	35.5	38.7	42.0	45.2	48.4	51.6	54.8	58.1	61.3	64.5	67.7	71.0	74.2	77.4	80.6	83.8	87.1	90.3	93.5
13	34.5	37.8	41.2	44.5	47.8	51.2	54.5	57.8	61.2	64.5	67.8	71.2	74.5	77.8	81.2	84.5	87.8	91.2	94.5	97.8
14	36.7	40.2	43.6	47.1	50.5	54.0	57.4	60.8	64.3	67.7	71.2	74.6	78.1	81.5	85.0	88.4	91.8	95.3	98.7	102.2
15	39.0	42.5	46.1	49.6	53.2	56.7	60.3	63.8	67.4	71.0	74.5	78.1	81.6	85.2	88.7	92.3	95 8	99.4	103.0	106.5
16	41.2	44.8	48.5	52.2	55.8	59.5	63.2	66.8	70.5	74.2	77.8	81.5	85.2	88.8	92.5	96.2	99.8	103.5	107.2	110.8
17	43.4	47.2	51.0	54.7	58.5	62.3	66.1	69.8	73.6	77.4	81.2	85.0	88.7	92.5	96.3	100.1	103.8	107.6	111.4	115.2
18	45.6	49.5	53.4	57.3	61.2	65.1	69.0	72.8	76.7	80.6	84.5	88.4	92.3	96.2	100.1	104.0	107.8	111.7	115.6	119.5
19	47.8	51.8	55.8	59.8	63.8	67.8	71.8	75.8	79.8	83.8	87.8	91.8	95.8	99.8	103.8	107.8	111.8	115.8	119.8	123.8
20	50.1	54.2	58.3	62.4	66.5	70.6	74.7	78.8	83.0	87.1	91.2	95.3	99.4	103.5	107.6	111.7	115.8	120.0	124.1	128.2
21	52.3	56.5	60.7	65.0	69.2	73.4	77.6	81.8	86.1	90.3	94.5	98.7	103.0	107.2	111.4	115.6	119.8	124.1	128.3	132.5
22	54.5	58.8	63.2	67.5	71.8	76.2	80.5	84.8	89.2	93.5	97.8	102.2	106.5	110.8	115.2	119.5	123.8	128.2	132.5	136.8
23	56.7	61.2	65.6	70.1	74.5	79.0	83.4	87.8	92.3	96.7	101.2	105.6	110.1	114.5	119.1	123.4	127.8	132.3	136.7	141.2
24	59.0	63.5	68.1	72.6	77.2	81.7	86.3	90.8	95.4	100.0	104.5	109.1	113.6	118.2	122.7	127.3	131.8	136.4	141.0	145.5

Side walls and ceilings included.

NUMBER OF SQUARE YARDS AND FEET IN ROOMS WITH 9-FOOT CEILINGS.

	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
3	13.0	15.3	17.6	20.0	22.3	24.6	27.0	29.3	31.6	34.0	36.3	38.6	41 0	43.3	45.6	48.0	50.3	52.6	55 0	57.3
4	15.3	17.7	20.2	22.6	25.1	27.5	30.0	32.4	34.8	37.3	39.7	42.2	44.6	47.1	49.5	52.0	54.4	56.8	59.3	61.7
5	17.6	20.2	22.7	25.3	27.8	30.4	33.0	35.5	38.1	40.6	43.2	45.7	48.3	50.8	53.4	56.0	58.5	61.1	63 6	66 2
6	20.0	22.6	25.3	28.0	30.6	33.3	36.0	38.6	41.3	44.0	46.6	49.3	52.0	54.6	57.3	60.0	63.5	65.4	68 0	70 6
7	22.3	25.1	27.8	30.6	33.4	36.2	39.0	41.7	44.5	47.3	50.1	52.8	55.6	58.4	61.2	64.0	66.7	69.5	72 3	75 1
8	24.6	27.5	30.4	33.3	36.2	39.1	42.0	44.8	47.7	50.6	53.5	56.4	59.3	62.2	65.1	68.0	70.8	73.7	77 6	79.5
9	27.0	30.0	33.0	36.0	39.0	42.0	45.0	48.0	51.0	54.0	57.0	60.0	63.0	66.0	69.0	72.0	75.0	78.0	81 0	84 0
10	29.3	32.4	35.5	38.6	41.7	44.8	48.0	51.1	54.2	57.3	60.4	63.5	66.6	69.7	72.8	76.0	79.1	82.2	85.3	88.4
11	31.6	34.8	38.1	41.3	44.5	47.7	51.0	54.2	57.4	60.6	63.8	67.1	70.3	73.5	76.7	80.0	83.2	86 4	89.6	92.8
12	34.0	37.3	40.6	44.0	47.3	50.6	54.0	57.3	60.6	64.0	67.3	70.6	74.0	77.3	80.6	84 0	87.3	90.6	94.0	97 3
13	36.3	39.7	43.2	46.6	50.1	53.5	57.0	60.4	63.8	67.3	70.7	74.2	77.6	81.1	84.5	88.0	91.4	94.8	98.3	101.7
14	38.6	42.2	45.7	49.3	52.8	56.4	60.0	63.5	67.1	70.6	74.2	77.7	81.3	84.8	88.4	92.0	95.5	99.1	102.6	106.2
15	41.0	44.6	48.3	52.0	55.6	59.3	63.0	66.6	70.3	74 0	77.6	81.3	85.0	88.6	92 3	96 0	99.6	103.3	107.0	111.6
16	43.3	47.1	50.8	54.6	58.4	62.2	66.0	69.7	73.5	77.3	81.1	84.8	88.6	92.4	96.2	100.0	103.7	107.5	111.3	115.1
17	45.6	49.5	53.4	57.3	61.2	65.1	69 0	72.8	76.7	80 6	84.5	88.4	92 3	96.2	100.4	104.0	107.8	111.7	115.6	119.5
18	48.0	52.0	56.0	60.0	64.0	68.0	72.0	76.0	80.0	84.0	88.0	92.0	96.0	100.0	104.0	108.0	112.0	116.0	120.0	124.0
19	50.3	54.4	58.5	62.6	66.7	70 8	75.0	79.1	83.2	87.3	91.4	95.5	99.6	103.7	107.8	112.0	116.1	120.2	124 3	128.4
20	52.6	56.8	61.1	65.3	69.5	73.7	78.0	82.2	86.4	90.6	94.8	99.1	103.3	107.5	111.7	116.0	120.2	124.4	128.6	132.8
21	55.0	59.3	63.6	68.0	72.3	76.6	81.0	85.3	89.6	94.0	98.3	102.6	107 0	111.3	115.6	120.0	124.3	128.6	134 3	137.3
22	57.3	61.7	66.2	70.6	75.1	79.5	84.0	88.4	92.8	97.3	101.7	106.2	111.6	115.1	121.5	124 0	128.4	132.8	137.3	141.7
23	59.6	64.2	68.7	73.3	77.8	82.4	87.0	91.5	95.1	100.6	105.2	109.7	114.3	118.8	123.4	128.0	132.5	137.0	141.6	146.2
24	62.0	66.6	71.3	76.0	80.6	85.3	90.0	94.6	99.3	104.0	108.6	113.3	118.0	122.6	127.3	132.0	136.6	141.3	146.0	150.6

Side walls and ceilings included.

NUMBER OF SQUARE YARDS AND FEET IN ROOMS WITH 9.6-FOOT CEILINGS.

	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
3	13.6	16.1	18.5	21.0	23.4	25.8	28.3	30.7	33.2	35.6	38.1	40.5	43.0	45.4	47.8	50.3	52.7	55.2	57.6	60.1
4	16.1	18.6	21.2	23.7	26.3	28.8	31.4	34.0	36.5	39.1	41.6	44.2	46.7	49.3	51.8	54.4	57.0	59.5	62.1	64.6
5	18.5	21.2	23.8	26.5	29.2	31.8	34.5	37.2	39.8	42.5	45.2	47.8	50.5	53.2	55.8	58.5	61.2	63.8	66.5	69.2
6	21.0	23.7	26.5	29.3	32.1	34.8	37.6	40.4	43.2	46.0	48.7	51.5	54.3	57.1	59.8	62.6	65.4	68.2	71.0	73.7
7	23.4	26.3	29.2	32.1	35.0	37.8	40.7	43.6	46.5	49.4	52.3	55.2	58.1	61.0	63.8	66.7	69.6	72.5	75.4	78.3
8	25.8	28.8	31.8	34.8	37.8	40.8	43.8	46.8	49.8	52.8	55.8	58.8	61.8	64.8	67.8	70.8	73.8	76.8	79.8	82.8
9	28.3	31.4	34.5	37.6	40.7	43.8	47.0	50.1	53.2	56.3	59.4	62.5	65.6	68.7	71.8	75.0	78.1	81.2	84.3	87.4
10	30.7	34.0	37.2	40.4	43.6	46.8	50.1	53.3	56.5	59.7	63.0	66.2	69.4	72.6	75.8	79.1	82.3	85.5	88.7	92.0
11	33.2	36.5	39.8	43.2	46.5	49.8	53.2	56.5	59.8	63.2	66.5	69.8	73.2	76.5	79.8	83.2	86.5	89.8	93.2	96.5
12	35.6	39.1	42.5	46.0	49.4	52.8	56.3	59.7	63.2	66.5	70.1	73.5	77.0	80.4	83.8	87.3	90.7	94.2	97.6	101.1
13	38.1	41.6	45.2	48.7	52.3	55.8	59.4	63.0	66.5	70.1	73.6	77.2	80.7	84.3	87.8	91.4	95.0	98.5	102.1	105.6
14	40.5	44.2	47.8	51.5	55.2	58.8	62.5	66.2	69.8	73.5	77.2	80.8	84.5	88.2	91.8	95.5	99.2	102.8	106.5	110.2
15	43.0	46.7	50.5	54.3	58.1	61.8	65.6	69.4	73.2	77.0	80.7	84.5	88.3	92.1	95.8	99.6	103.4	107.2	111.0	114.7
16	45.4	49.3	53.2	57.1	61.0	64.8	68.7	72.6	76.5	80.4	84.3	88.2	92.1	96.0	99.8	103.7	107.6	111.5	115.4	119.3
17	47.8	51.8	55.8	59.8	63.8	67.8	71.8	75.8	79.8	83.8	87.8	91.8	95.8	99.8	103.8	107.8	111.8	115.8	119.8	123.8
18	50.3	54.4	68.5	62.6	66.7	70.8	75.0	79.1	83.2	87.3	91.4	95.5	99.6	103.7	107.8	112.0	116.1	120.2	124.3	128.4
19	52.7	57.0	61.2	65.4	69.6	73.8	78.1	82.3	86.5	90.7	95.0	99.0	103.4	107.6	111.8	116.1	120.3	124.5	128.7	133.0
20	55.2	59.5	63.8	68.2	72.5	76.8	81.2	85.5	89.8	94.2	98.5	102.8	107.2	111.5	115.8	120.2	124.5	128.8	133.2	137.5
21	57.6	62.1	66.5	71.0	75.4	79.8	84.3	88.7	93.2	97.6	102.1	106.5	111.0	115.4	119.8	124.3	128.7	133.2	137.6	142.1
22	60 1	64.6	69.2	73.7	78.3	82.8	87.4	92.0	96.5	101.1	105.6	110.2	114.7	119.3	123.8	128.4	133.0	137.5	142.1	146.6
23	62.5	67.2	71.8	76.5	81.2	85.8	90.5	95.2	99.8	104.5	109.2	113.8	118.5	123.2	127.8	132.5	137.2	141.8	146.5	151.2
24	65.0	69.7	74.5	79.3	84.1	88.8	93.6	98.4	103.2	108.0	112.7	117.5	122.3	137.1	131.8	136.6	141.4	146.2	151.0	155.7

Side walls and ceilings included.

NUMBER OF SQUARE YARDS AND FEET IN ROOMS WITH 10-FOOT CEILINGS.

	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
3	14.3	16.8	19.4	22.0	24.5	27.1	29.6	32.2	34.7	37.3	39.8	42.4	45.0	47.5	50.1	52.6	55.2	57.7	60.3	62.8
4	16.8	19.5	22.2	24.8	27.5	30.2	32.8	35.5	38.2	40.8	43.5	46.2	48.8	51.5	54.2	56.8	59.5	62.2	64.8	67.5
5	19.4	22.2	25.0	27.7	30.5	33.3	36.1	38.8	41.6	44.4	47.2	50.0	52.7	55.5	58.3	61.1	63.8	66.6	69.4	72.2
6	22.0	24.8	27.7	30.6	33.5	36.4	39.3	42.2	45.1	48.0	50.8	53.7	56.6	59.5	62.4	65.3	68.2	71.1	74.0	76.8
7	24.5	27.5	30.5	33.5	36.5	39.5	42.5	45.5	48.5	51.5	54.5	57.5	60.5	63.5	66.5	69.5	72.5	75.5	78.5	81.5
8	27.1	30.2	33.3	36.4	39.5	42.6	45.7	48.8	52.0	55.1	58.2	61.3	64.4	67.5	70.6	73.7	76.8	80.0	83.1	86.2
9	29.6	32.8	36.1	39.3	42.5	45.7	49.0	52.2	55.4	58.6	61.8	65.1	68.3	71.5	74.7	78.0	81.2	84.4	87.6	90.8
10	32.3	35.5	38.8	42.2	45.5	48.8	52.2	55.5	58.8	62.2	65.5	68.8	72.2	75.5	78.8	82.2	85.5	88.8	92.2	95.5
11	34.7	38.2	41.6	45.1	48.5	52.0	55.4	58.8	62.3	65.7	69.2	72.6	76.1	79.5	83.0	86.4	89.8	93.3	96.7	100.2
12	37.3	40.8	44.4	48.0	51.5	55.1	58.6	62.2	65.7	69.3	72.8	76.4	80.0	83.5	87.1	90.6	94.2	97.7	101.3	104.8
13	39.8	43.5	47.2	50.8	54.5	58.2	61.8	65.5	69.2	72.8	76.5	80.2	83.8	87.5	91.2	94.8	98.5	102.2	105.8	109.5
14	42.4	46.2	50.0	53.7	57.5	61.3	65.1	68.8	72.6	76.4	80.2	84.0	87.7	91.5	95.3	99.1	102.8	106.6	110.4	114.2
15	45.0	48.8	52.7	56.6	60.5	64.4	68.3	72.2	76.1	80.0	83.8	87.7	91.6	95.5	99.4	103.3	107.2	111.1	115.0	118.8
16	47.5	51.5	55.5	59.5	63.5	67.5	71.5	75.5	79.5	83.5	87.5	91.5	95.5	99.5	103.5	107.5	111.5	115.5	119.5	123.5
17	50.1	54.2	58.3	62.4	66.5	70.6	74.7	78.8	83.0	87.1	91.2	95.3	99.4	103.5	107.6	111.7	115.8	120.0	124.1	128.2
18	52.6	56.8	61.1	65.3	69.5	73.7	78.0	82.2	86.4	90.6	94.8	99.1	103.3	107.5	111.7	116.0	120.2	124.4	128.6	132.8
19	55.2	59.5	63.8	68.2	72.5	76.8	81.2	85.5	89.8	94.2	98.5	102.8	107.2	111.5	115.8	120.2	124.5	128.8	133.2	137.5
20	57.7	62.2	66.6	71.1	75.5	80.0	84.4	88.8	93.3	97.7	102.2	106.6	111.1	115.5	120.0	124.4	128.8	133.3	137.7	142.2
21	60.3	64.8	69.4	74.0	78.5	83.1	87.6	92.2	96.7	101.3	105.8	110.4	115.0	119.5	124.1	128.6	133.2	137.7	142.3	146.8
22	62.8	67.5	72.2	76.8	81.5	86.2	90.8	95.5	100.2	104.8	109.5	114.2	118.8	123.5	128.2	132.8	137.5	142.2	146.8	151.5
23	65.4	70.2	75.0	79.7	84.5	89.3	94.1	98.8	103.6	108.4	113.2	118.0	122.7	127.5	132.3	137.1	141.8	146.6	151.4	156.2
24	68.0	72.8	77.7	82.6	87.5	92.4	97.3	102.2	107.1	112.0	117.8	121.7	126.6	131.5	136.4	141.3	146.2	151.1	156.0	160.8

Side walls and ceilings included.

NUMBER OF SQUARE YARDS AND FEET IN ROOMS WITH 10.6-FOOT CEILINGS.

	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
3	15.0	17.6	20.3	23.0	25.6	28.3	31.0	33.6	36.3	39.0	41.6	44.3	47.0	49.6	52.3	55.0	57.6	60.3	63.0	55.6
4	17.6	20.4	23.2	26.0	28.7	31.5	34.3	37.1	39.8	42.6	45.4	48.2	51.0	53.7	56.5	59.3	62.1	64.8	67.6	70.4
5	20.3	23.2	26.1	29.0	31.8	34.7	37.6	40.5	43.4	46.3	49.2	52.1	55.0	57.8	60.7	63.6	66.5	69.4	72.3	75.2
6	23.0	26.0	29.0	32.0	35.0	38.0	41.0	44.0	47.0	50.0	53.0	56.0	59.0	62.0	65.0	68.0	71.0	74.0	77.0	80.0
7	25.6	28.7	31.8	35.0	38.1	41.2	44.3	47.4	50.5	53.6	56.7	59.8	63.0	66.1	69.2	72.3	75.4	78.5	81.6	84.7
8	28.3	31.5	34.7	38.0	41.2	44.4	47.6	50.8	54.1	57.3	60.5	63.7	67.0	70.2	73.4	76.6	79.8	83.1	86.3	89.5
9	31.0	34.3	37.6	41.0	44.3	47.6	51.0	54.3	57.6	61.0	64.3	67.6	71.0	74.3	77.6	81.0	84.3	87.6	91.0	94.3
10	33.6	37.1	40.5	44.0	47.4	50.8	54.3	57.7	61.2	64.6	68.1	71.5	75.0	78.4	81.8	85.3	88.7	92.2	95.6	99.1
11	36.3	39.8	43.4	47.0	50.5	54.1	57.6	61.2	64.7	68.3	71.8	75.4	79.0	82.5	86.1	89.6	93.2	96.7	100.3	103.8
12	39.0	42.6	46.3	50.0	53.6	57.3	61.0	64.6	68.3	72.0	75.6	79.3	83.0	86.6	90.3	94.0	97.6	101.3	105.0	108.6
13	41.6	45.4	49.2	53.0	56.7	60.5	64.3	68.1	71.8	75.6	79.4	83.2	87.0	90.7	94.5	98.3	102.1	105.8	109.6	113.4
14	44.3	48.2	52.1	56.0	59.8	63.7	67.6	71.5	75.4	79.3	83.2	87.1	91.0	94.8	98.7	102.6	106.5	110.4	114.3	118.2
15	47.0	51.0	55.0	59.0	63.0	67.0	71.0	75.0	79.0	83.0	87.0	91.0	95.0	99.0	103.0	107.0	111.0	115.0	119.0	123.0
16	49.6	53.7	57.8	62.0	66.1	70.2	74.3	78.4	82.5	86.6	90.7	94.8	99.0	103.1	107.2	111.3	115.4	119.5	123.6	127.7
17	52.3	56.5	60.7	65.0	69.2	73.4	77.6	81.8	86.1	90.3	94.5	98.7	103.0	107.2	111.4	115.6	119.8	124.1	128.3	132.5
18	55.0	59.3	63.6	68.0	72.3	76.6	81.0	85.3	89.6	94.0	98.3	102.6	107.0	111.3	115.6	120.0	124.3	128.6	133.0	137.3
19	57.6	62.1	66.5	71.0	75.4	79.8	84.3	88.7	93.2	97.6	102.1	106.5	111.0	115.4	119.8	124.3	128.7	133.2	137.6	142.1
20	60.3	64.8	69.4	74.0	78.5	83.1	87.6	92.2	96.7	101.3	105.8	110.4	115.0	119.5	124.1	128.6	133.2	137.7	142.3	146.8
21	63.0	67.6	72.3	77.0	81.6	86.3	91.0	95.6	100.3	105.0	109.6	114.3	119.0	123.6	128.3	133.0	137.6	142.3	147.0	151.6
22	65.6	70.4	75.2	80.0	84.7	89.5	94.3	99.1	103.8	108.6	113.4	118.2	123.0	127.7	132.5	137.3	142.1	146.8	151.6	156.4
23	68.3	73.2	78.1	83.0	87.8	92.7	97.6	102.5	107.4	112.3	117.2	122.1	127.0	131.8	136.7	141.6	146.5	151.4	156.3	161.2
24	71.0	76.0	81.0	86.0	91.0	96.0	101.0	106.0	111.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0	151.0	156.0	161.0	166.0

Side walls and ceilings included.

NUMBER OF SQUARE YARDS AND FEET IN ROOMS WITH 11-FOOT CEILINGS.

	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
3	15.6	18.4	21.2	24.0	26.7	29.5	32.3	35.1	37.8	40.6	43.4	46.2	49.0	51.7	54.5	57.3	60.1	62.8	65.6	68.4
4	18.4	21.3	24.2	27.1	30.0	32.8	35.7	38.6	41.5	44.4	47.3	50.2	53.1	56.0	58.8	61.7	64.6	67.5	70.4	73.6
5	21.2	24.2	27.2	30.2	33.2	36.2	39.2	42.2	45.2	48.2	51.2	54.2	57.2	60.2	63.2	66.2	69.2	72.2	75.2	78.2
6	24.0	27.1	30.2	33.3	36.4	39.5	42.6	45.7	48.8	52.0	55.1	58.2	61.3	64.4	67.5	70.6	73.7	76.8	80.0	83.1
7	26.7	30.0	33.2	36.4	39.6	42.8	46.1	49.3	52.5	55.7	59.0	62.2	65.4	68.6	71.8	75.1	78.3	81.5	84.7	88.0
8	29.5	32.8	36.2	39.5	42.8	46.2	49.5	52.8	56.2	59.5	62.8	66.2	69.5	72.8	76.2	79.5	82.8	86.2	89.5	92.8
9	32.3	35.7	39.2	42.6	46.1	49.5	53.0	56.4	59.8	63.3	66.7	70.2	73.6	77.1	80.5	84.0	87.4	90.8	94.3	96.7
10	35.1	38.6	42.2	45.7	49.3	52.8	56.4	60.0	63.5	67.1	70.6	74.2	77.7	81.3	84.8	88.4	92.0	95.5	99.1	102.6
11	37.8	41.5	45.2	48.8	52.5	56.2	59.8	63.5	67.2	70.8	74.5	78.2	81.8	85.5	89.2	92.8	96.5	100.2	103.8	107.5
12	40.6	44.4	48.2	52.0	55.7	59.5	63.3	67.1	70.8	74.6	78.4	82.2	86.0	89.7	93.5	97.3	101.1	104.8	108.6	112.4
13	43.4	47.3	51.2	55.1	59.0	62.8	66.7	70.6	74.5	78.4	82.3	86.2	90.1	94.0	97.8	101.7	105.6	109.5	113.4	117.3
14	46.2	50.2	54.2	58.2	62.2	66.2	70.2	74.2	78.2	82.2	86.2	90.2	94.2	98.2	102.2	106.2	110.2	114.2	118.2	122.2
15	49.0	53.1	57.2	61.3	65.4	69.5	73.6	77.7	81.8	86.0	90.1	94.2	98.3	102.4	106.5	110.6	114.7	118.8	123.0	127.1
16	51.7	56.0	60.2	64.4	68.6	72.8	77.1	81.3	85.5	89.7	94.0	98.2	102.4	106.6	110.8	115.1	119.3	123.5	127.7	132.0
17	54.5	58.8	63.2	67.5	71.8	76.2	80.5	84.8	89.2	93.5	97.8	102.2	106.5	110.8	115.2	119.5	123.8	128.2	132.5	136.8
18	57.3	61.7	66.2	70.6	75.1	79.5	84.0	88.4	92.8	97.3	101.7	106.2	110.6	115.1	119.5	124.0	128.4	132.8	137.3	141.7
19	60.1	64.6	69.2	73.7	78.3	82.8	87.4	92.0	96.5	101.1	105.6	110.2	114.7	119.3	123.8	128.4	133.0	137.5	142.1	146.6
20	62.8	67.5	72.2	76.8	81.5	86.2	90.8	95.5	100.2	104.8	109.5	114.2	118.8	123.5	128.2	132.8	137.5	142.2	146.8	151.5
21	65.6	70.4	75.2	80.0	84.7	89.5	94.3	99.1	103.8	108.6	113.4	118.2	123.0	127.7	132.5	137.3	142.1	146.8	151.6	156.4
22	68.4	73.3	78.2	83.1	88.0	92.8	97.7	102.6	107.5	112.4	117.3	122.2	127.1	132.0	136.8	141.7	146.6	151.5	156.4	161.3

Side walls and ceilings included.

NUMBER OF SQUARE YARDS AND FEET IN ROOMS WITH 12-FOOT CEILINGS.

	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
3	17.0	20.0	23.0	26.0	29.0	32.0	35.0	38.0	41.0	44.0	47.0	50.0	53.0	56.0	59.0	62.0	65.0	68.0	71.0	74.0
4	20.0	23.1	26.2	29.3	32.4	35.5	38.6	41.7	44.8	48.0	51.1	54.2	57.3	60.4	63.5	66.6	69.7	72.8	76.0	79.1
5	23.0	26.2	29.4	32.6	35.8	39.1	42.3	45.5	48.7	52.0	55.2	58.4	61.6	64.8	68.1	71.3	74.5	77.7	81.0	84.2
6	26.0	29.3	32.6	36.0	39.3	42.6	46.0	49.3	52.6	56.0	59.3	62.6	66.0	69.3	72.6	76.0	79.3	82.6	86.0	89.3
7	29.0	32.4	35.8	39.3	42.7	46.2	49.6	53.1	56.5	60.0	63.4	66.8	70.3	73.7	77.2	80.6	84.4	87.5	91.0	94.4
8	32.0	35.5	39.1	42.6	46.2	49.7	53.3	56.8	60.4	64.0	67.5	71.1	74.6	78.2	81.7	85.3	88.8	92.4	96.0	99.5
9	35.0	38.6	42.3	46.0	49.0	53.3	57.0	60.6	64.3	68.0	71.6	75.3	79.0	82.6	86.3	90.0	93.6	97.3	101.0	104.6
10	38.0	41.7	45.5	49.3	53.0	56.8	60.6	64.4	68.2	72.0	75.7	79.5	83.3	87.1	90.8	94.6	98.4	102.2	106.0	109.7
11	41.0	44.8	48.7	52.6	56.5	60.4	64.3	68.2	72.1	76.0	79.8	83.7	87.6	91.5	95.4	99.3	103.2	107.1	111.0	114.8
12	44.0	48.0	52.0	56.0	60.0	64.0	68.0	72.0	76.0	80.0	84.0	88.0	92.0	96.0	100.0	104.0	108.0	112.0	116.0	120.0
13	47.0	51.1	55.2	59.3	63.4	67.5	71.6	75.7	79.8	84.0	88.1	92.2	96.3	100.4	104.5	108.6	112.7	116.8	121.0	125.1
14	50.0	54.2	58.4	62.6	66.8	71.1	75.3	79.5	83.7	88.0	92.2	96.4	100.6	104.8	109.1	113.3	117.5	121.7	126.0	130.2
15	53.0	57.3	61.6	66.0	70.3	74.6	79.0	83.3	87.6	92.0	96.3	100.6	105.0	109.3	113.6	118.0	122.3	126.6	131.0	135.3
16	56.0	60.4	64.8	69.3	73.7	78.2	82.6	87.1	91.5	96.0	100.4	104.8	109.3	113.7	118.2	122.6	127.1	131.5	136.0	140.4
17	59.0	63.5	68.1	72.6	77.2	81.7	86.3	90.8	95.4	100.0	104.5	109.1	113.6	118.2	122.7	127.3	131.8	136.4	141.0	145.5
18	62.0	66.6	71.3	76.0	80.6	85.3	90.0	94.6	99.3	104.0	108.6	113.3	118.0	122.6	127.3	132.0	136.6	141.3	146.0	150.6
19	65.0	69.7	74.5	79.3	84.1	88.8	93.6	98.4	103.2	108.0	112.7	117.5	122.3	127.1	131.8	136.6	141.4	146.2	151.0	155.7
20	68.0	72.8	77.7	82.6	87.5	92.4	97.3	102.2	107.1	112.0	116.8	121.7	126.6	131.5	136.4	141.3	146.2	151.1	156.0	160.8
21	71.0	76.0	81.0	86.0	91.0	96.0	101.0	106.0	111.0	116.0	121.0	126.0	131.0	136.0	141.0	146.0	151.0	156.0	161.0	166.0
22	74.0	79.1	84.2	89.3	94.4	99.5	104.6	109.7	114.8	120.0	125.1	130.2	135.3	140.4	145.5	150.6	155.7	160.8	166.0	171.1

Side walls and ceilings included.

The "Empire" Brands of Wood Fibre,

Cement Wall and Finish Plasters.

KINGDON PRINTING CO., WINNIPEG